

[Patent claims.

sub. C1 1. Method for monitoring the region (1,7) of technical rolling bodies (7), in particular their support (1) such as rails of the wheel rail systems or bearings, by employing of converters (2,3,4,8) which are disposed at the support (1) or at the rolling bodies (7), which converters (2,3,4,8) capture forces occurring in the support (1) or at the rolling body (7), wherein the converters (2,3,4,8) generate electrical pulses and signalize the electrical pulses to an electrical control and evaluation station (6), wherein changes in state of the monitored region, such as material damages or separating damages, are detected by way of the electrical pulses, characterized in that at least one of the electrical converters (2,3,4,8) disposed at the support (1) in the monitored region (1,7) of the technical rolling body (7) or at least at the technical rolling body (7) is subjected actively with electrical energy (5a,9) and thereby the converter (2,3,4,8) feeds evaluable pulses (5a', 5b, 5c') into the support (1) or the rolling body (7), which pulses (5a', 5b, 5c') are captured by at least one of the converters (2,3,4,8), wherein pulses (5a', 5b, 5c') in turn are emitted by at least one of the converters (2,3,4,8),

which pulses are captured by the control and evaluation device (6) as evaluable pulses (5c, 9'), and whereby the region (1,7) of the technical rolling bodies (7) is monitored at any time relative to changes in state.

2. Method according to claim 1, characterized in that the converter (2,3,4,8) corresponds wireless with the control and evaluation station (6), for example by radio transmission technology.

3. Method according to claim 1 or 2, characterized in that the converters (2,3,4,8) are such, which feed either mechanical or electromagnetic waves into the support (1).

4. Method according to claim 1 or 2, characterized in that the converters (2,3,4,8) operating as pulse emitters are supplied with electrical energy by the electrical control and evaluation station (6).

5. Device for monitoring the region (1,7) of technical rolling bodies (7), in particular their supports (1) such as rails of a wheel rail system or bearings, with converters (2,3,4,8), wherein the converters are disposed at the

support (1) or at the rolling body (7), and wherein the converters (2,3,4,8) capture forces occurring in the support (1) or at the rolling body (7), wherein the converters (2,3,4,8) generate electrical pulses and signalize these electrical pulses to an electrical control and evaluation station (6), wherein changes of state of the monitored region, such as material damages and separation damages, are detected with the control and evaluation station (6), characterized in that at least one of the converters (2,3,4,8) disposed at the support (1) in the monitored region (1,7) of the technical rolling body (7) or at least one of the converters (2,3,4,8) disposed at the rolling body (7) actively is subjectable to electrical energy (5a,9) and thereby feeds evaluable pulses (5a', 5b, 5c') into the support (1) as a pulse emitter, which pulses (5a', 5b, 5c') are capturable by at least one of the converters (2,3,4,8) as a pulse receiver and are signalizable from there as electrical pulses (5c, 9') to the control and evaluation station (6).

6. Device according to claim 5, characterized in that the radio transmission technology device is coordinated to at least one of the converters (2,3,4,8), wherein the radio

transmission technology device corresponds wireless with the control and evaluation station (6).

7. Device according to claim 5 or 6, characterized in that the converters (2,3,4,8) are of such kind that they are capable of either introducing mechanical or electromagnetic waves into the support (1).

*sub. a2* 8. Device according to one of the claims 5 through 7, characterized in that the electrical control and evaluation station (6) supplies the converters (2,3,4,8) operating as pulse emitters with electrical energy.

9. Device according to one of the claims 5 through 8, characterized in that the support is a rail (1) and the technical rolling body is a vehicle wheel (7), wherein converters (2,3,4,8) are disposed at the rail and at the vehicle wheel (7) as pulse emitters, wherein the converters (2,3,4,8) generate pulses at the support (1), which pulses are received by the converters (2,3,4,8) as pulse receivers and are transmitted and again received from the converters (8) disposed at the vehicle wheel (7) and are further guided to the control and evaluation station (6).

10. Device according to one of the claims 5 through 8, characterized in that the support is a rail (1) and the technical rolling body is a vehicle wheel (7), wherein converters (8) are disposed at the vehicle wheel (7) as pulse emitters, which converters generate pulses at the vehicle wheel (7), which pulses are received by the converters (8) disposed at the vehicle wheel (7) and are transmitted and are further guided to the control and evaluation station (6).

11. Device according to one of the claims 5 through 9, characterized in that the control and evaluation station (6) is supported by the vehicle wheel (7).

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